

Measuring Quality Outcomes in Nursing Facilities

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Key Policy Question:
How can we improve the lives
of persons residing in nursing
facilities?

Keys to Quality Improvement

- Identify what we mean by quality
- Create a composite rank of facilities
- Profile the facilities quality distribution from poor to superior

Defining Quality

- Process standards
 - Tender loving care – a mirror of life at home
 - Adherence to specified care protocols
- Environmental standards
 - Cleanliness, quality of food
 - Caregiver credentials
 - Caregiver staffing levels
 - Physical environment
- Person's satisfaction
- Person's status and how changes over time -
Quality Indicators

ALL ARE IMPORTANT!

- Unfortunately, correlation among these measures is low
- This holds for:
 - State survey results
 - Resident satisfaction surveys
 - Staffing levels
 - Resident change measures
- Problem with CMS Five-Star System

Thus We Have To Make a Decision on How to Assess Quality

- For our team what matters is how the resident changes over time
- Measure this with facility-based Quality Indicators – QIs

Why is the Resident in the Facility?

- For care
- To live as good a life as possible over their remaining life course
- No one came in to experience:
 - Premature functional loss
 - Confusion
 - Pain
 - Falls
 - Loneliness

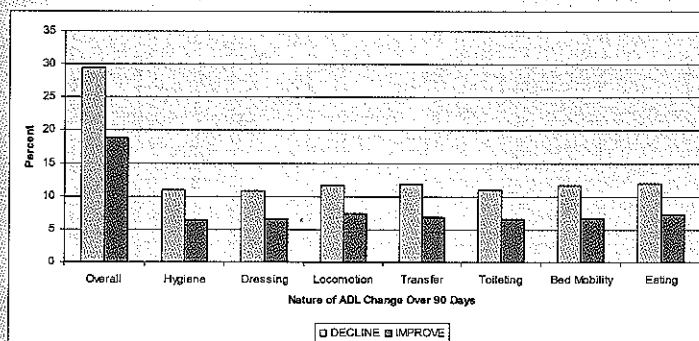
Our Goal is Clear – the US Congress Set the Tone

- Once in a nursing facility the resident should expect staff to take every step possible to maximize:
 - the person's functional potential
 - quality of life

But the Challenges are Many

- How do we measure quality – what is the most appropriate yardstick?
- What can we reasonably expect a facility to achieve?

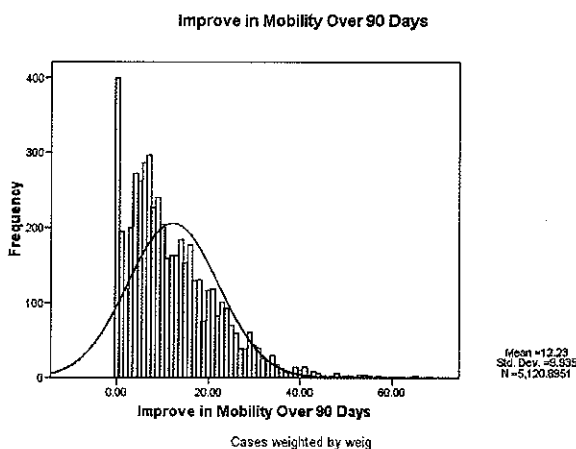
High Decline Rates Are Not Inevitable!



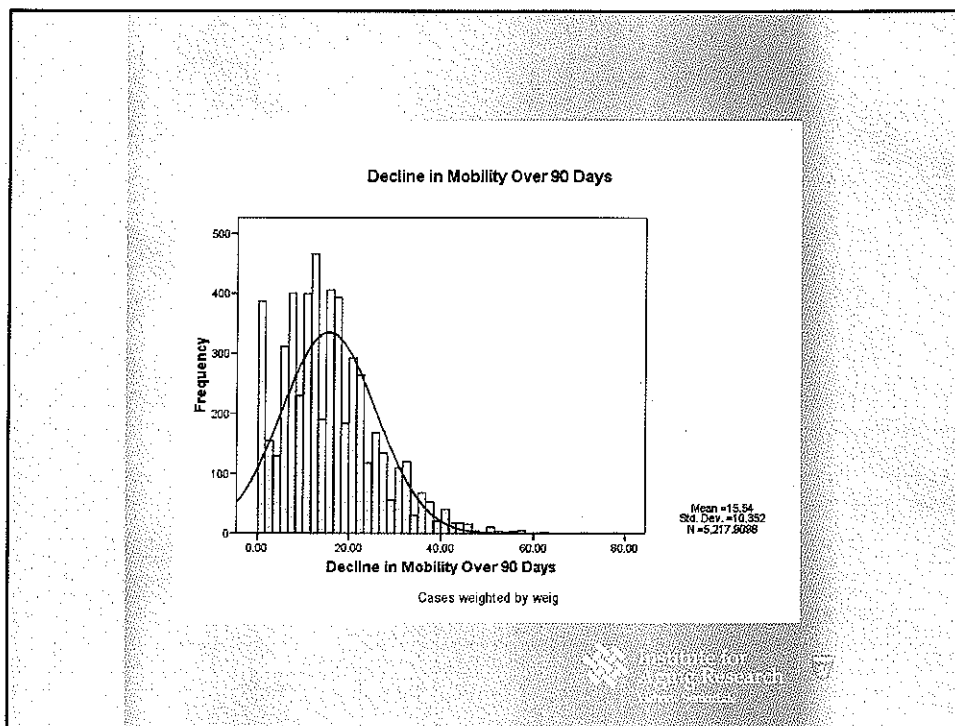
Inter-Facility Variability

- Even after adjusting for differences in residents served, inter-facility variability in outcome rates are enormous
- The next two graphs depict mobility change rates for facilities in Canada and the United States

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Conceptual Issues Inherent in Applying Quality Measures

- Availability of resident-level measures — the MDS
- Process to identify key quality measures
- Agreement that the key measures are important
- Belief that facilities can alter person-specific outcomes in key areas

Technical Issues

- Access the computerized MDS quarterly assessments
 - Relatively easy State access to Medicaid DUA
- Transform these person-level data into facility level QIs --
 - define “bad” and “good”
 - introduce risk adjustment
 - decide how “different” is different
- Establish the relationship among quality indicators
- Create a summary Quality Composite

Risk Adjustment of QIs

- Necessary to compare “apples to apples”
- Account for bias due to variations in facility admission practices
- Three ways to adjust
 - Stratification
 - Exclusions
 - Regression-based adjustment
 - Individual risk factors (covariates)
 - Direct stratification

History of QIs

- Development goes back two decades
- In most recent cross-national work, interRAI created standardized versions of 80+ NF QIs
- Through analysis and deliberations, set has been reduced to 19 measures

interRAI Quality Indicators based on MDS

- For nursing facilities -- 18 key measures
- For post-acute care -- 16 key measures
- Let us look at the measures

Functional QI Items

QI Measure		

Clinical QI Items

QI Measure		

Utilization QI Items

Let us Look at Rates of Change
In Nursing Facilities

Multi-Dimensionality of QIs

- Facilities that perform well in one dimension may perform at a more average or even poor level in other dimensions
- How do we identify the “best” facilities?
 - If a facility does poorly in one dimension is the facility poor?
 - If it does superbly in multiple dimensions, is it best?

Composite Quality Measure for Nursing Facilities

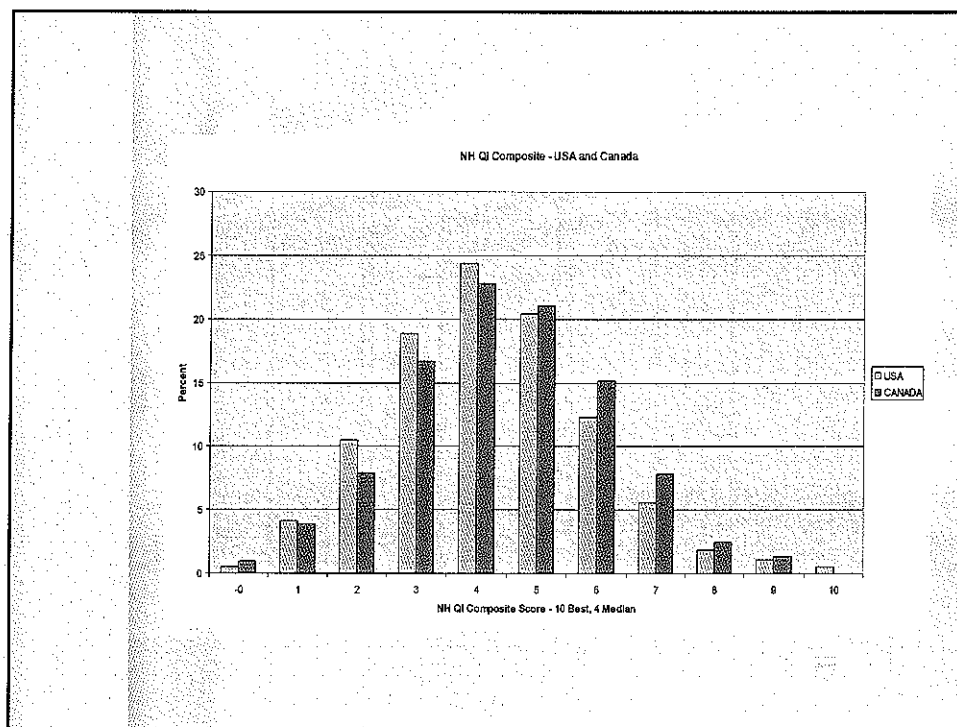
- Functional QIs -- two bundles
 - Functional improvement
 - Functional decline
- Clinical complexity – no bundling

Creating The QI Composite

- 8 functional change QIs -- employing both decline and improvement variants)
- 10 clinical complexity QIs – e.g., incontinence, pain
- 80% of composite score from functional measures
- 20% of composite score is from clinical complexity measures

Distributional Properties of NH QI Composite

- The next table is based on data from 2 Canadian provinces and 5 US states
- Data are weighted



A True International Standard

- Given the cross-country relative equivalency in rates, interRAI has adopted this North American Distribution as its International Standard

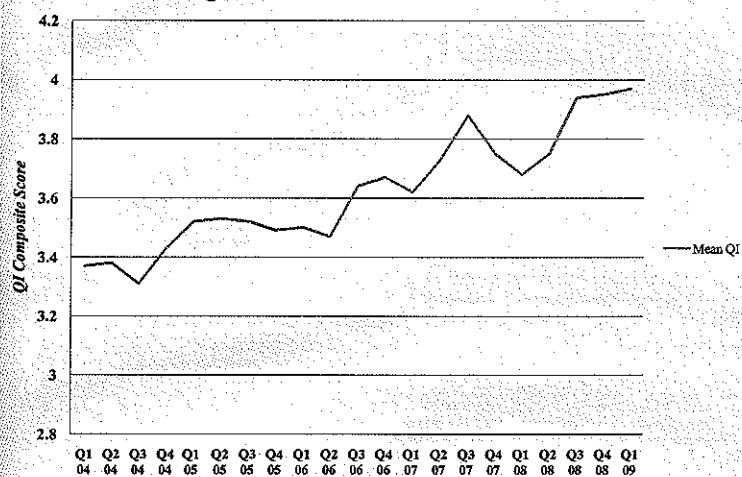
Two Examples of Use of Quality Composite

- Surprise – In Michigan, Detroit tends to have more nursing homes toward the positive end of the quality distribution
- In Massachusetts, the state has seen a significant decrease in recent years of poorer performing nursing homes

Detroit vs. Rest of Michigan

- Detroit has higher proportion of better scoring facilities

**QI Composite Score –
21 Quarter Trend in Massachusetts NHs**



**QI Composite - 21 Quarters For Massachusetts Nursing
Homes**

